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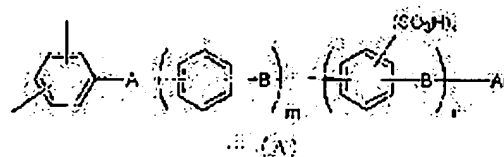
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(54) POLYMER ELECTROLYTE COMPOSITE MEMBRANE, ITS MANUFACTURING METHOD AND SOLID POLYMER TYPE FUEL CELL USING IT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a polymer electrolyte composite membrane having low electric resistance and high mechanical strength; to provide its manufacturing method; and to provide a solid polymer type fuel cell using it.

SOLUTION: This polymer electrolyte composite membrane is formed by impregnating, into a porous base material, polyarylene having a sulfonic acid group having a repeating unit expressed by formula A. In this manufacturing method of the polymer electrolyte composite membrane, a solution of polyarylene having the sulfonic acid group having the repeating unit expressed by formula A is impregnated into the porous



base material and thereafter dried. In formula A, A is a bivalent electron absorbing group; B is a bivalent electron-donating group or direct bonding; Ar is an aromatic group having a substituted group expressed by -SO₃H; m is an integer of 0 to 10; n is an integer of 0 to 10; and k is an integer of 1 to 4.

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